REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Amendments to Specification and Claims

The claims and specification have been revised to correct various minor grammatical and idiomatic errors. Because the changes are all formal in nature, it is respectfully submitted that the changes do not involve new matter.

2. Rejection of Claims 1-9 Under 35 USC §103(a) in view of U.S. Patent Nos. 6,052,362 (Somer), 6,151,316 (Crayford), and 6,816,462 (Booth)

This rejection is respectfully traversed on the grounds that the Somer, Crayford, and Booth patents fail to disclose or suggest a loopback test device and method capable of

*   checking for faults between the central office and loopback test device;
*   whether the connection of an Ethernet switch is good; and
*   whether the loopback test device is itself operating normally,

thereby eliminating the need to send service personnel to check these conditions. Instead, the alleged loopback test device of Somer is merely a transceiver that is incapable of localizing downstream faults, or of enabling upstream devices to check for downstream faults, as claimed, as well as whether the test device itself is operating properly. If Somer's transceiver 250 fails, it is impossible for upstream controllers to determine whether the fault lies with the transceiver or with downstream connections.

More specifically, the claimed invention differs from the proposed combination in the following respects:

a. Somer's test transceiver 250 fails to perform a number of the claimed loopback test functions, including:

*   sending out a reply packet so that the first level loopback test of timing the reply packet can be performed; and

- modifying BPDU packets so that changes can be detected by the network management system, the lack of changes indicating a disconnection between the loopback test device and the Ethernet switch in the community.

Instead, test transceiver 250 of Somer is merely a transceiver which operates during normal operation of the repeater 210 as a physical transceiver (col. 3, lines 64-65). During testing, the data generator and checker circuit 220 of Somer generates test packets which are transmitted to the test transceiver 250 via line 220b, the test transceiver 250 then transmitting the test packets to the test port 252 of the repeater core logic 230, which has functions that are similar to the claimed Ethernet switch (col. 4, lines 55-60). Nowhere does Somer disclose or suggest use of the transceiver 250 of Somer as a loopback test circuit to carry out the claimed functions;

b. Similarly, physical transceivers 240-243 of Somer are merely physical transceivers for respectively transmitting and receiving packets and are totally different from the claimed community network system in a central office, which utilizes the loopback test device to perform a multi-level loopback test on the community network system so as to easily obtain information on whether there is a fault between the central office and the loopback test device, whether the connection of the Ethernet switch is good, and whether the loopback test device itself is operating normally.

c. These deficiencies are not made up for by the Crayford patent, which concerns a closed system and has not applicability to the claimed community network system and Ethernet switch.

d. The deficiencies are also not made up for by the Booth patent, which concerns a VPN security channel, which is a virtual channel that is not limited to a particular physical carrier, and for which the claimed loopback test device would therefore be useless.

It is true that the apparatus and method disclosed by Somer uses a loopback path. However, that is the only similarity with the claimed invention. The loopback path of Somer transmits an internally generated test packet through a loop that includes the test transceiver, a first path *within* the core logic, at least selected physical transceiver, and a second path *within* the core logic. Somer's two core logic paths do not correspond to the claimed central office ⇨ loopback test device ⇨ Ethernet switch.

The Crayford patent, on the other hand, discloses a system for supplying management data to a management agent by a network switch by generating management packets having at least a portion of a received data packet. The network switch includes a plurality of network ports, including network traffic ports and one management port for synthesizing the management frame. According to Crayford, generation of the management frame provides detailed management information corresponding to characteristics of the received data packet and the corresponding network switch response, independent of the timing at which the data packet was received by the network switch. None of these teachings have anything to do with either the claimed invention or with the method of Somer.

Finally, Booth is concerned with a method and system for determining the connectivity of a virtual private network, which is not a physical network at all, and therefore cannot possibly have a loopback test device installed between a central office and an Ethernet switch, as claimed.

With respect to claim 7, it is respectfully noted that in addition to the above mentioned functions, claim 7 positively recites an Ethernet control circuit, a packet transmission and receiving control circuit, and at least two I/O ports for performing a loopback test, packet generation and packet reply. The transceivers of Somer do not perform loopback tests, packet generation, and packet reply, but merely forward packets generated elsewhere, and therefore do not need the claimed control circuits.

Because the Somer, Crayford, and Booth patents do not disclose all elements recited in the claims, whether considered individually or in any reasonable combination, withdrawal of the rejection of claims 1-9 under 35 USC §103(a) is respectfully requested.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

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